



# UNITED STATES PATENT AND TRADEMARK OFFICE

cel

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/488,351	01/20/2000	Terry L. Cole	2000.023000	4297
23720	7590	08/09/2005	EXAMINER	
WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			AHN, SAM K	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/488,351	COLE, TERRY L.	
	Examiner	Art Unit	
	Sam K. Ahn	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-32,35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-32,35 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed on 05/18/05 have been fully considered but they are not persuasive.

The applicants argue that Wu in view of Wiese do not teach the limitations recited. The examiner respectfully disagrees. The examiner again emphasizes that the training parameter taught by Wu is the PSD value. The applicants, on page 14, argues that Wu does not teach the limitation of the PDS value provided to the second transceiver. The examiner explains that it would have been obvious to one skilled in the art at the time of the invention to analyze that calculating the training parameters performed by the first transceiver and transmitting the training parameters to the second transceiver, and further, the second transceiver transmitting training parameters to the first transceiver to perform training may be equivalent to the process of the first transceiver calculating the training parameter, performing training, and transmitting the training parameters to the second transceiver, as the first transceiver would be adjusted through the training parameter, and further in Wu's system, both transceivers would be optimally adjusted for transmission.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to

do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is in the knowledge generally available to one skilled in the art that lowering or minimizing transmit power is always desirable in any system, thus, allowing the system to minimize power consumption and further to minimize or avoid any interferences that may be caused when signals transmitted have high power level. Therefore, it would have been obvious to one skilled in the art at the time of the invention to combine Wu's system with Wiese's teaching of initializing the communication channel in low power for the purpose of reducing power consumption and potentially minimizing interference with other modem lines that may be affected as noise when high powered signalling is performed.

In response to applicants' argument that Wu does not teach, at the first transceiver, training based at least on the training parameter, the examiner explains that the first transceiver calculates the training parameter (70C), and both transceivers perform training (72R,74C,76R,76C), and provide the training parameter (72C,74R,76C,76R) to the other transceiver (see Fig.9). Therefore, it would have been obvious to one skilled in the art at the time of the invention to analyze that calculating the training parameters performed by the first transceiver and transmitting the training parameters to the second transceiver, and further, the second transceiver transmitting training parameters to the first transceiver to

perform training may be equivalent to the process of the first transceiver calculating the training parameter, performing training, and transmitting the training parameters to the second transceiver, as the first transceiver would be adjusted through the training parameter, and further in Wu's system, both transceivers would be optimally adjusted for transmission.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 3, 5, 6, 11-14, 16,17, 21-25, 28, 29, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (cited previously) in view of Wiese et al. (Wiese, cited previously).

Regarding claims 2,12,21,28,35 and 36, Wu teaches a method and apparatus comprising establishing a communication channel between a first transceiver and a second transceiver (see Fig.9) comprising determining (70C), and performing (72C), at the first transceiver (central office modem), a training parameter in response to establishing the communication channel (PSD REVERB), and providing (72C) the training parameter to the second transceiver (remote modem). The first transceiver calculates the training parameter (70C), and both transceivers perform training (72R,74C,76R,76C), and provide the training parameter

(72C,74R,76C,76R) to the other transceiver (see Fig.9). Therefore, it would have been obvious to one skilled in the art at the time of the invention to analyze that calculating the training parameters performed by the first transceiver and transmitting the training parameters to the second transceiver, and further, the second transceiver transmitting training parameters to the first transceiver to perform training may be equivalent to the process of the first transceiver calculating the training parameter, performing training, and transmitting the training parameters to the second transceiver, as the first transceiver would be adjusted through the training parameter, and further in Wu's system, both transceivers would be optimally adjusted for transmission. However, Wu does not explicitly teach wherein the communication channel establishment was performed in low power mode.

Wiese discloses a method and apparatus comprising establishing a communication channel between a first transceiver and a second transceiver in low power mode, (note col.6, lines 16-33) wherein Wiese teaches transmission of an initialization signal at a lower power level or in a low power mode, and increasing the power level until the signal is received by the other transceiver.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to initialize the communication channel in low power for the purpose of reducing power consumption and potentially minimize interference with other modem lines that may be affected as noise when high powered signaling is performed.

Regarding claims 3, 14, 24, 29, Wu in view of Wiese teach all subject matter claimed, as applied to claim 2 or 13. Wiese further teaches wherein transmission of remote initialization signal at a relatively low power level and incrementing until the signal is detected. (note col.6, lines 16-30) Therefore, it is inherent that the increment of level of power taught by Wiese is the smallest amount of power acceptable, since the signal is acceptable only after it has been detected.

Regarding claims 5, 6, 16, 17, 25, Wu in view of Wiese teach all subject matter claimed, as applied to claim 2 or 13. Wiese further teaches computation of signal to noise ratio for determining the training parameter. (note claim 10) Signal to noise ratio includes determination of phase and amplitude distortion, and therefore it is inherent that the training parameters include determining phase and amplitude distortion of the communication channel.

Regarding claim 11, Wu in view of Wiese teach all subject matter claimed, as applied to claim 2. Wiese further teaches providing a training parameter to the first transceiver by the second transceiver. (see 239, 243 in Fig.5 and note col.9, lines 20-36)

Regarding claim 13, Wu in view of Wiese teach all subject matter claimed, as applied to claim 12. Wiese further teaches transmitting and receiving data with the transceiver (VTU-R). (see Fig.5)

Regarding claims 22 and 23, Wu in view of Wiese teach all subject matter claimed, as applied to claim 21. Wiese further teaches that the first and second transceiver is a DSL modem. (see Fig.1a where the remote (R1~RN and O1~ON are modems in the remote or customer area and the latter are modems in the central location)

3. Claims 4, 15 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (cited previously) in view of Wiese et al. (cited previously) and Palm (cited previously).

Regarding claims 4,15 and 30-32, Wu in view of Wiese teach all subject matter claimed, as applied to claims 2 or 13. However, Wu nor Wiese explicitly disclose power cutback in the range of 0-30 dB.

Palm teaches power adjustments wherein during initialization, power levels are incremented in the increments of 2 dB, a predetermined level. (note col.6, lines 27-43) Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement Wiese's teaching of initializing the communication channel in low power mode by incrementing in 2 dB, as taught by Palm, for the purpose of appropriately incrementing, without incrementing too rapidly, nor incrementing too slowly, and establish connection.



4. Claims 7-10,18-20,26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (cited previously) in view of Wiese et al. (cited previously) and Olafsson USP 5,870,438 (cited previously).

Regarding claims 7-10,18-20,26 and 27, Wu in view of Wiese teach all subject matter claimed, as applied to claim 2,17 or 25. However, Wu in view of Wiese do not explicitly teach wherein determining the training parameter includes a transmitter characteristic of the second transceiver including a symbol timing, carrier frequency, and carrier phase of the transmitter.

Olafsson teaches fast synchronization in a modem, and further teaches wherein the training parameter includes the transmitter characteristic of a symbol timing, carrier frequency, and carrier phase of the transmitter (note col.1, lines 29-37). Therefore, it would have been obvious to one skilled in the art at the time of the invention to include the training parameters taught by Olafsson in Wu's training parameter for the purpose of increasing data transmission at a high data rate (note col.1, lines 37-39).

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory

Art Unit: 2637

action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam K. Ahn  
8/3/05

TEMESGHEN GHEBREYESAE  
PRIMARY EXAMINER  
8/2